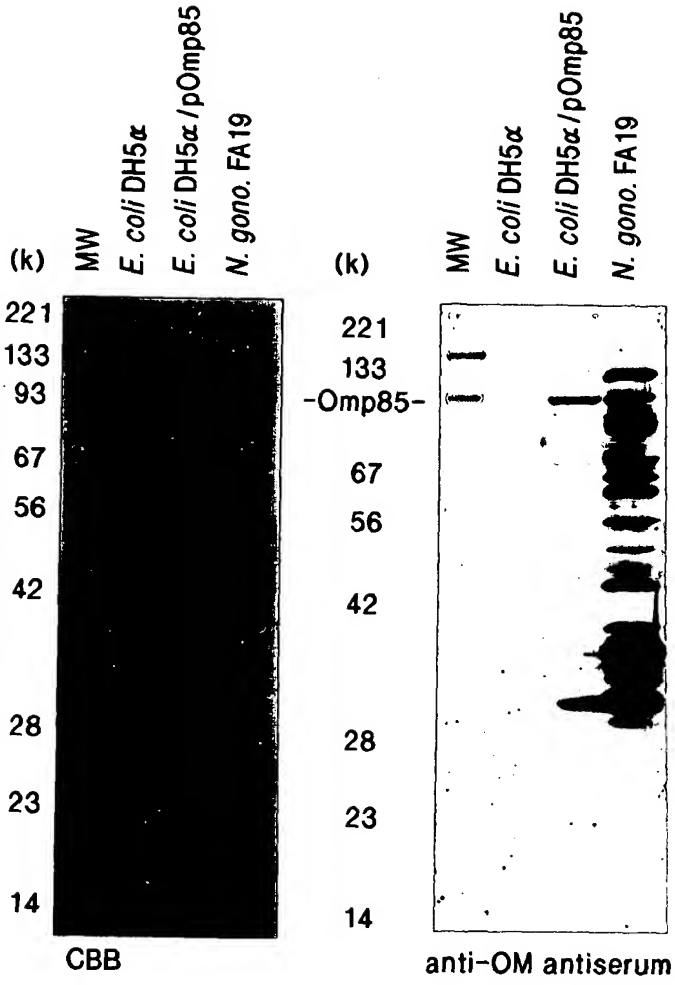
(k)
MW
E. coli DH5α
E. coli DH5α/pOmp85
N. gono. FA19
221
133
93
67
56
42
28
23
14
CBB
(k)
MW
E. coli DH5α
E. coli DH5α/pOmp85
N. gono. FA19
221
133
-Omp85-
67
56
42
28
23
14
anti-OM antiserum

FIG. I

FIG. 2A

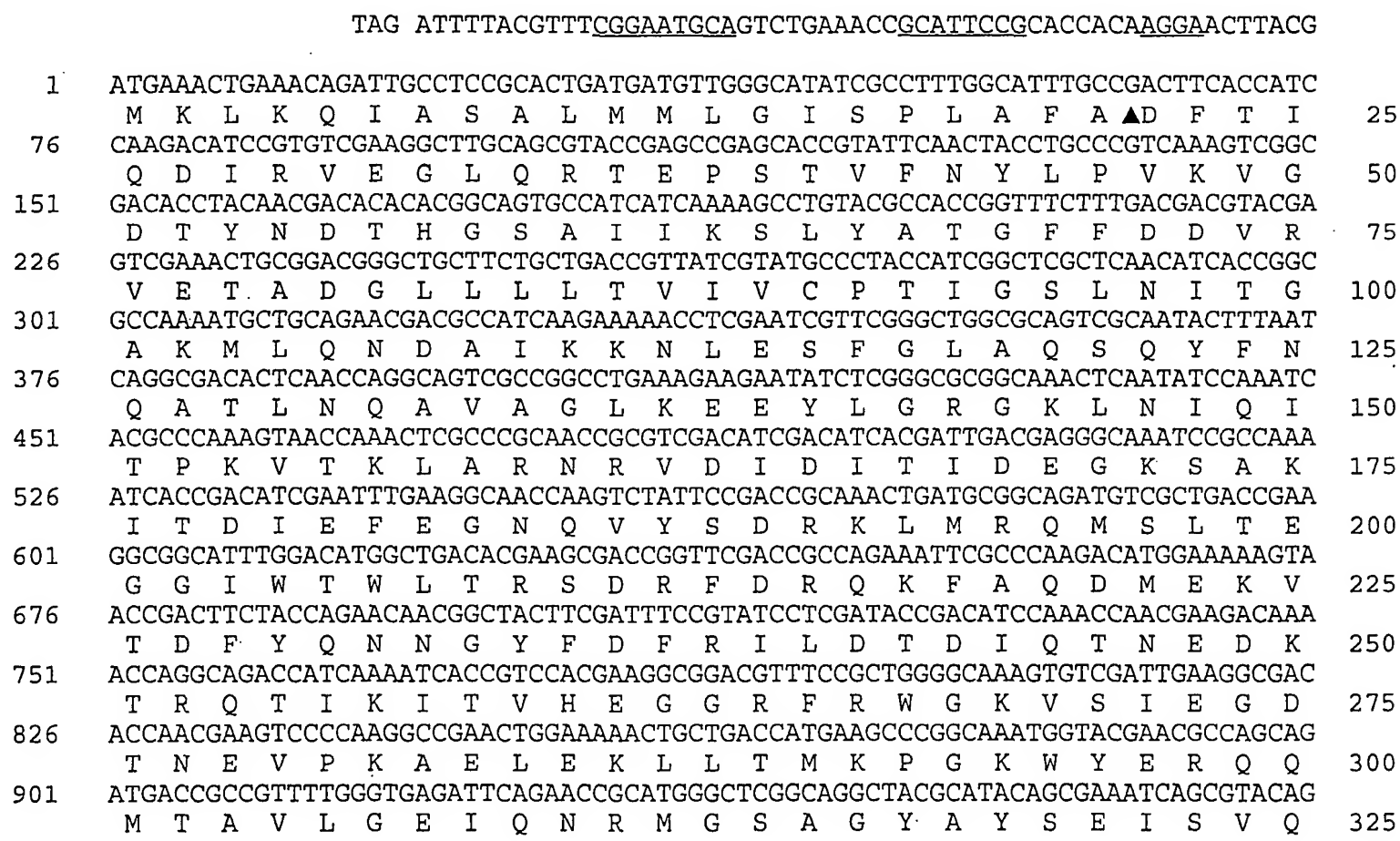
TAG ATTTTACGTTTCGGAATGCAGTCTGAAACCGCATTCCGCACCACAAGGAACTTACG
1 ATGAAACTGAAACAGATTGCCTCCGCACTGATGATGTTGGGCATATCGCCTTTGGCATTTGCCGACTTCACCATC
M K L K Q I A S A L M M L G I S P L A F A ▲D F T I 25
76 CAAGACATCCGTGTCGAAGGCTTGCAGCGTACCGAGCCGAGCACCGTATTCAACTACCTGCCCGTCAAAGTCGGC
Q D I R V E G L Q R T E P S T V F N Y L P V K V G 50
151 GACACCTACAACGACACACACGGCAGTGCCATCATCAAAAGCCTGTACGCCACCGGTTTCTTTGACGACGTACGA
D T Y N D T H G S A I I K S L Y A T G F F D D V R 75
226 GTCGAAACTGCGGACGGGCTGCTTCTGCTGACCGTTATCGTATGCCCTACCATCGGCTCGCTCAACATCACCGGC
V E T A D G L L L L T V I V C P T I G S L N I T G 100
301 GCCAAAATGCTGCAGAACGACGCCATCAAGAAAAACCTCGAATCGTTCGGGCTGGCGCAGTCGCAATACTTTAAT
A K M L Q N D A I K K N L E S F G L A Q S Q Y F N 125
376 CAGGCGACACTCAACCAGGCAGTCGCCGGCCTGAAAGAAGAATATCTCGGGCGCGGCAAACTCAATATCCAAATC
Q A T L N Q A V A G L K E E Y L G R G K L N I Q I 150
451 ACGCCCAAAGTAACCAAACTCGCCCGCAACCGCGTCGACATCGACATCACGATTGACGAGGGCAAATCCGCCAAA
T P K V T K L A R N R V D I D I T I D E G K S A K 175
526 ATCACCGACATCGAATTTGAAGGCAACCAAGTCTATTCCGACCGCAAACTGATGCGGCAGATGTCGCTGACCGAA
I T D I E F E G N Q V Y S D R K L M R Q M S L T E 200
601 GGCGGCATTTGGACATGGCTGACACGAAGCGACCGGTTCGACCGCCAGAAATTCGCCCAAGACATGGAAAAAGTA
G G I W T W L T R S D R F D R Q K F A Q D M E K V 225
676 ACCGACTTCTACCAGAACAACGGCTACTTCGATTTCCGTATCCTCGATACCGACATCCAAACCAACGAAGACAAA
T D F Y Q N N G Y F D F R I L D T D I Q T N E D K 250
751 ACCAGGCAGACCATCAAAATCACCGTCCACGAAGGCGGACGTTTCCGCTGGGGCAAAGTGTCGATTGAAGGCGAC
T R Q T I K I T V H E G G R F R W G K V S I E G D 275
826 ACCAACGAAGTCCCCAAGGCCGAACTGGAAAAACTGCTGACCATGAAGCCCGGCAAATGGTACGAACGCCAGCAG
T N E V P K A E L E K L L T M K P G K W Y E R Q Q 300
901 ATGACCGCCGTTTTGGGTGAGATTCAGAACCGCATGGGCTCGGCAGGCTACGCATACAGCGAAATCAGCGTACAG
M T A V L G E I Q N R M G S A G Y A Y S E I S V Q 325

FIG. 2B

```
976   CCGCTGCCGAACGCCGGAACCAAAACCGTCGATTTCGTCCTGCACATCGAACCGGGCAGAAAAATCTACGTCAAC
       P  L  P  N  A  G  T  K  T  V  D  F  V  L  H  I  E  P  G  R  K  I  Y  V  N   350
1051  GAAATCCACATCACCGGCAACAACAAAACCCGCGACGAAGTCGTGCGCCGCGAATTGCGCCAAATGGAATCCGCG
       E  I  H  I  T  G  N  N  K  T  R  D  E  V  V  R  R  E  L  R  Q  M  E  S  A   375
1126  CCTTACGACACCTCCAAGCTGCAACGCTCCAAAGAGCGCGTCGAGCTTTTGGGCTACTTCGACAACGTACAGTTT
       P  Y  D  T  S  K  L  Q  R  S  K  E  R  V  E  L  L  G  Y  F  D  N  V  Q  F   400
1201  GATGCCGTCCCGCTTGCCGGTACGCCCGACAAAGTCGATTTGAACATGAGCCTGACCGAACGTTCCACCGGCTCG
       D  A  V  P  L  A  G  T  P  D  K  V  D  L  N  M  S  L  T  E  R  S  T  G  S   425
1276  CTCGACTTGAGCGCGGGCTGGGTTCAGGATACCGGCTTGGTCATGTCCGCCGGCGTATCGCAGGACAACCTGTTC
       L  D  L  S  A  G  W  V  Q  D  T  G  L  V  M  S  A  G  V  S  Q  D  N  L  F   450
1351  GGTACGGGCAAGTCGGCCGCCCTGCGCGCCTCGCGAAGCAAAACCACGCTCAACGGCTCGCTGTCGTTTACCGAC
       G  T  G  K  S  A  A  L  R  A  S  R  S  K  T  T  L  N  G  S  L  S  F  T  D   475
1426  CCGTACTTCACGGCAGACGGGGTCAGCCTGGGCTACGATATTTACGGAAAAGCCTTCGACCCGCGCAAAGCATCG
       P  Y  F  T  A  D  G  V  S  L  G  Y  D  I  Y  G  K  A  F  D  P  R  K  A  S   500
1501  ACCAGCGTCAAACAATATAAAACCACCACCGCCGGCGGCGGCGTAAGGATGGGTATCCCCGTTACCGAATACGAC
       T  S  V  K  Q  Y  K  T  T  T  A  G  G  G  V  R  M  G  I  P  V  T  E  Y  D   525
1576  CGCGTCAATTTCGGGCTGGCGGCGGAACACCTGACCGTCAACACCTACAACAAAGCACCCAAACGCTATGCCGAC
       R  V  N  F  G  L  A  A  E  H  L  T  V  N  T  Y  N  K  A  P  K  R  Y  A  D   550
1651  TTTATCAAACAATACGGCAAAACCGACGGCGCAGACGGCAGCTTCAAAGGCCTGCTGTACAAAGGCACTGTCGGC
       F  I  K  Q  Y  G  K  T  D  G  A  D  G  S  F  K  G  L  L  Y  K  G  T  V  G   575
1726  TGGGGGCGCAACAAGACCGACAGCGCCTTATGGCCGACGCGCGGCTACCTGACCGGCGTAAATGCCGAAATCGCC
       W  G  R  N  K  T  D  S  A  L  W  P  T  R  G  Y  L  T  G  V  N  A  E  I  A   600
1801  CTGCCCGGCAGCAAACTGCAATACTACTCCGCCACCCACAACCAAACCTGGTTCTTCCCCTTAAGCAAAACCTTC
       L  P  G  S  K  L  Q  Y  Y  S  A  T  H  N  Q  T  W  F  F  P  L  S  K  T  F   625
1876  ACGCTGATGCTCGGCGGCGAAGTCGGCATTGCGGGCGGCTACGGCAGAACCAAAGAAATCCCCTTCTTTGAAAAC
       T  L  M  L  G  G  E  V  G  I  A  G  G  Y  G  R  T  K  E  I  P  F  F  E  N   650
1951  TTCTACGGCGGCGGCCTGGGTTCGGTGCGCGGCTACGAAAGCGGCACGCTCGGCCCGAAAGTGTATGACGAATAC
       F  Y  G  G  G  L  G  S  V  R  G  Y  E  S  G  T  L  G  P  K  V  Y  D  E  Y   675
```

FIG. 2C

```
2026   GGCGAAAAAATCAGCTACGGCGGCAACAAAAAAGCCAACGTCTCCGCCGAGCTGCTCTTCCCGATGCCCGGTGCG
        G  E  K  I  S  Y  G  G  N  K  K  A  N  V  S  A  E  L  L  F  P  M  P  G  A   700
2101   AAAGACGCACGCACCGTCCGCCTGAGCCTGTTTGCCGACGCAGGCAGCGTGTGGGACGGCAGAACCTATACCGCC
        K  D  A  R  T  V  R  L  S  L  F  A  D  A  G  S  V  W  D  G  R  T  Y  T  A   725
2176   GCCGAAAACGGTAACAACAAATCGGTTTACTCGGAAAACGCGCATAAATCCACCTTTACCAACGAATTGCGCTAT
        A  E  N  G  N  N  K  S  V  Y  S  E  N  A  H  K  S  T  F  T  N  E  L  R  Y   750
2251   TCCGCCGGCGGCGCGGTTACCTGGCTCTCGCCTTTGGGCCCGATGAAATTCATCTACGCCTACCCGCTGAAGAAA
        S  A  G  G  A  V  T  W  L  S  P  L  G  P  M  K  F  I  Y  A  Y  P  L  K  K   775
2326   AAACCGGAAGACGAAATCCAACGCTTCCATTCCAGCTCGGCACGACGTTC TAA CCCGCAAATGCCGTCTGAAG
        K  P  E  D  E  I  Q  R  F  Q  F  Q  L  G  T  T  F                          792
2399   CCCTTCAGACGGCATTTCGCGGCAACATCCGAAGGAGTTTTACC ATG
```

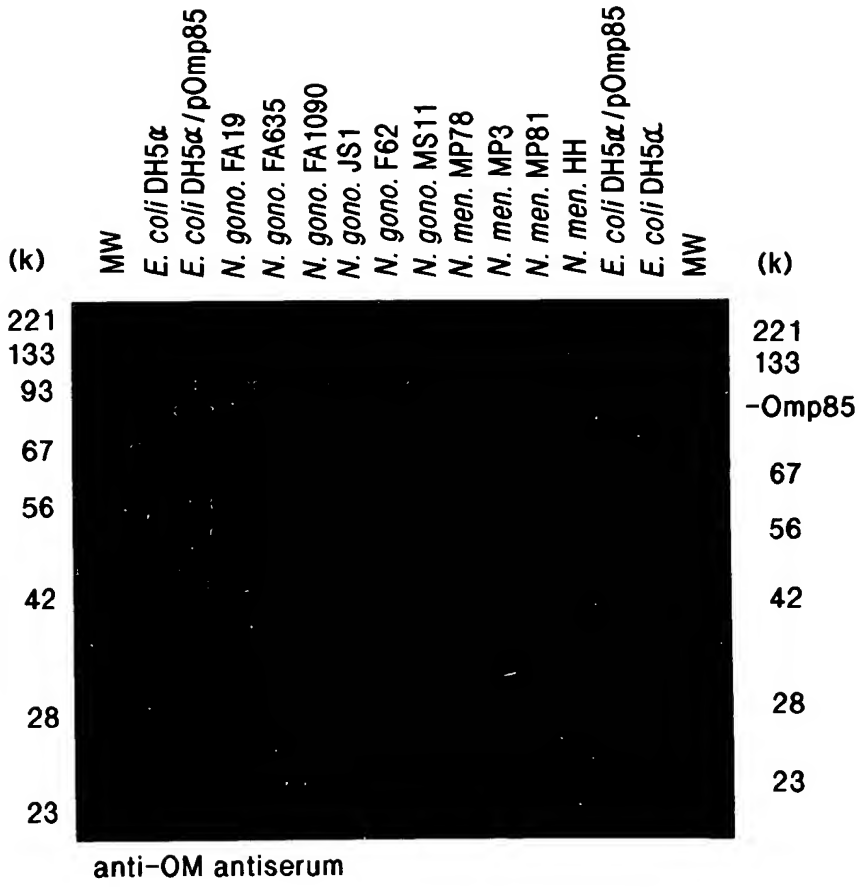
(k)
MW
E. coli DH5α
E. coli DH5α/pOmp85
N. gono. FA19
N. gono. FA635
N. gono. FA1090
N. gono. JS1
N. gono. F62
N. gono. MS11
N. men. MP78
N. men. MP3
N. men. MP81
N. men. HH
E. coli DH5α/pOmp85
E. coli DH5α
MW
(k)
221
133
93
67
56
42
28
23
221
133
-Omp85
67
56
42
28
23
anti-OM antiserum

FIG. 3

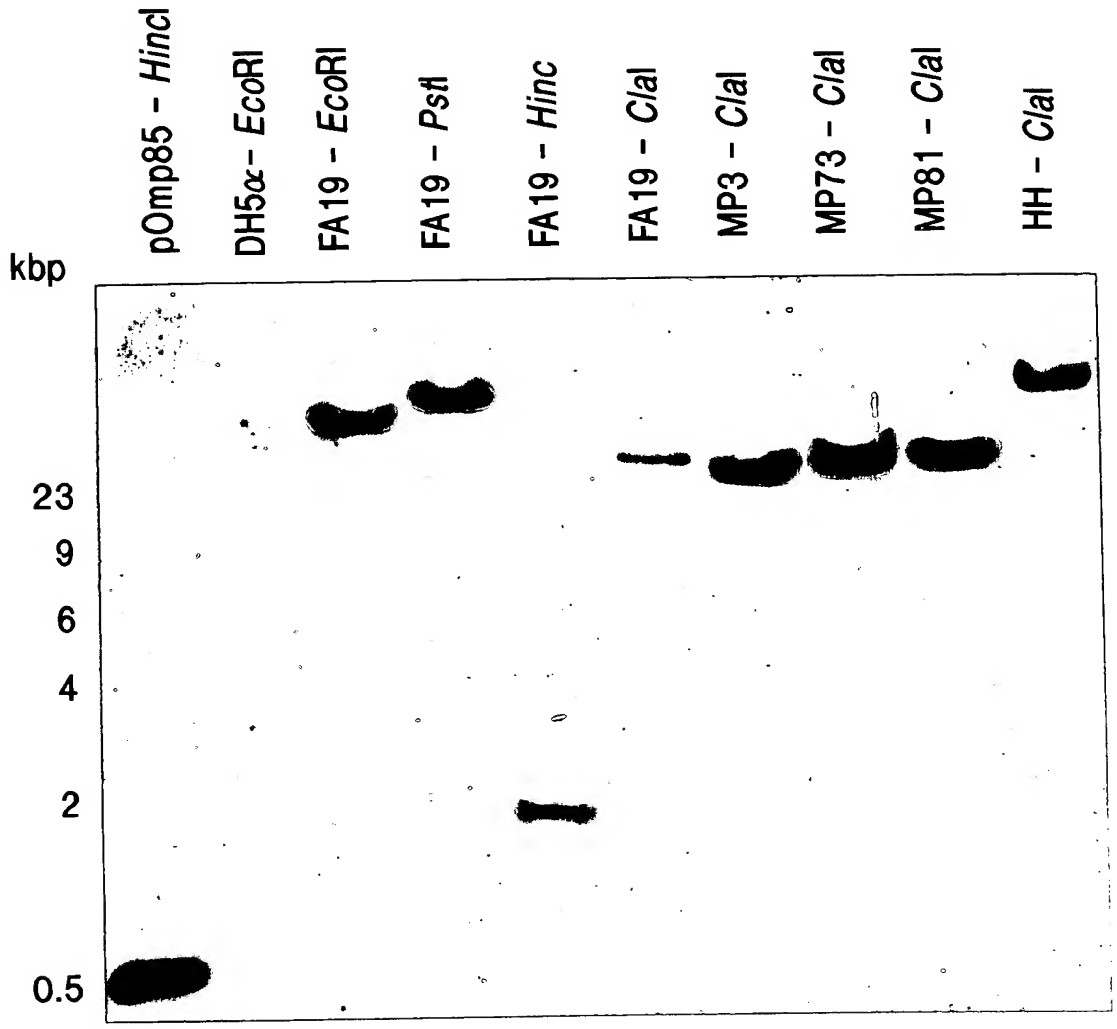
pOmp85 – HincI
DH5α– EcoRI
FA19 – EcoRI
FA19 – PstI
FA19 – Hinc
FA19 – ClaI
MP3 – ClaI
MP73 – ClaI
MP81 – ClaI
HH – ClaI
kbp
23
9
6
4
2
0.5

FIG. 4

FIG. 5

```
MKLKQIASALMMLGISPLAFADFTIQDIRVEGLQRTEPSTVFNYLPVKVGDTYNDTHGSAIIKSLYATGFFDDVRVETAD      80

GQLLLTVIERPTIGSLNITGAKMLQNDAIKKNLESFGLAQSQYFNQATLNQAVAGLKEEYLGRGKLNIQITPKVTKLARN      160
 L       VC

RVDIDITIDEGKSAKITDIEFEGNQVYSDRKLMRQMSLTEGGIWTWLTRSNQFNEQKFAQDMEKVTDFYQNNGYFDFRIL      240
                                                    DR DR

DTDIQTNEDKTKQTIKITVHEGGRFRWGKVSIEGDTNEVPKAELEKLLTMKPGKWYERQQMTAVLGEIQNRMGSAGYAYS      320
            R

EISVQPLPNAETKTVDFVLHIEPGRKIYVNEIHITGNNKTRDEVVRRELRQMESAPYDTSKLQRSKERVELLGYFDNVQF      400
            G

DAVPLAGTPDKVDLNMSLTERSTGSLDLSAGWVQDTGLVMSAGVSQDNLFGTGKSAALRASRSKTTLNGSLSFTDPYFTA      480

DGVSLGYDVYGKAFDPRKASTSIKQYKTTTAGAGIRMSVPVTEYDRVNFGLVAEHLTVNTYNKAPKHYADFIKKYGKTDG      560
         I              V          G V GI              A                R       Q

TDGSFKGWLYKGTVGWGRNKTDSALWPTRGYLTGVNAEIALPGSKLQYYSATHNQTWFFPLSKTFTLMLGGEVGIAGGYG      640
A      L

RTKEIPFFENFYGGGLGSVRGYESGTLGPKVYDEYGEKISYGGNKKANVSAELLFPMPGAKDARTVRLSLFADAGSVWDG      720

KTYDDNSSSATGGRVQNIYGAGNTHKSTFTNELRYSAGGAVTWLSPLGPMKFRYAYPLKKKPEDEIQRFQFQLGTTF      797
R  ***TAAEN NN*KSV *SE A                                  I
```

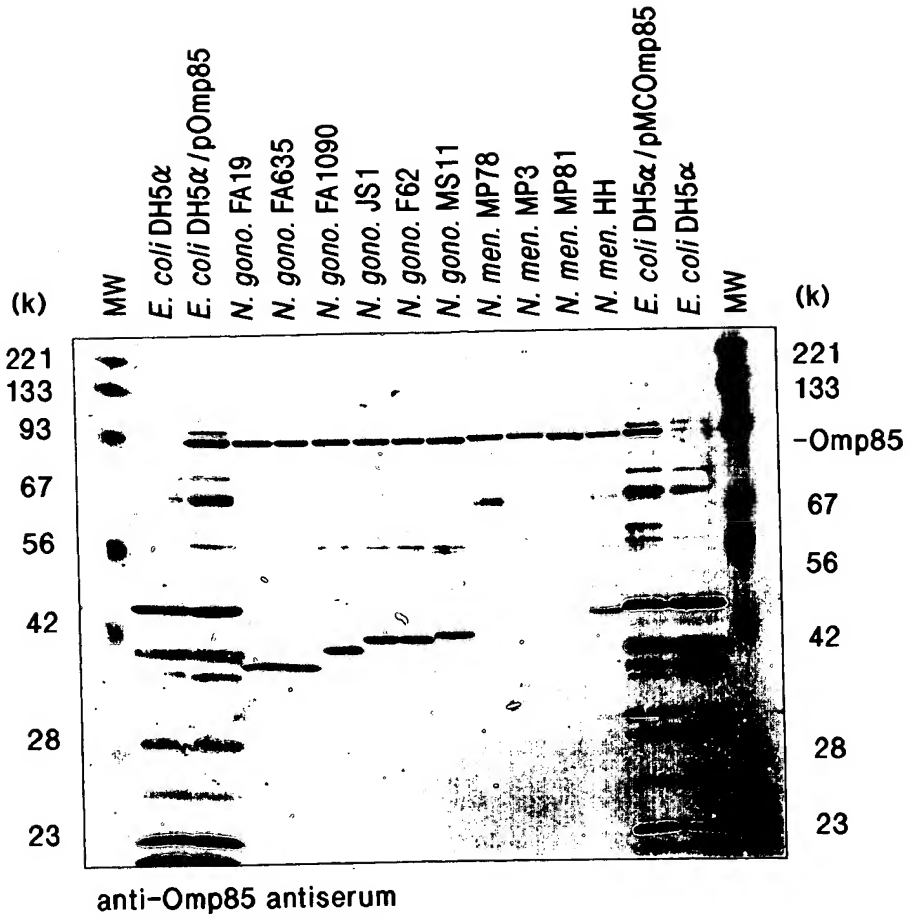
(k)
MW
E. coli DH5α
E. coli DH5α/pOmp85
N. gono. FA19
N. gono. FA635
N. gono. FA1090
N. gono. JS1
N. gono. F62
N. gono. MS11
N. men. MP78
N. men. MP3
N. men. MP81
N. men. HH
E. coli DH5α/pMCOmp85
E. coli DH5α
MW
(k)
221
133
93
67
56
42
28
23
221
133
-Omp85
67
56
42
28
23
anti-Omp85 antiserum

FIG. 6

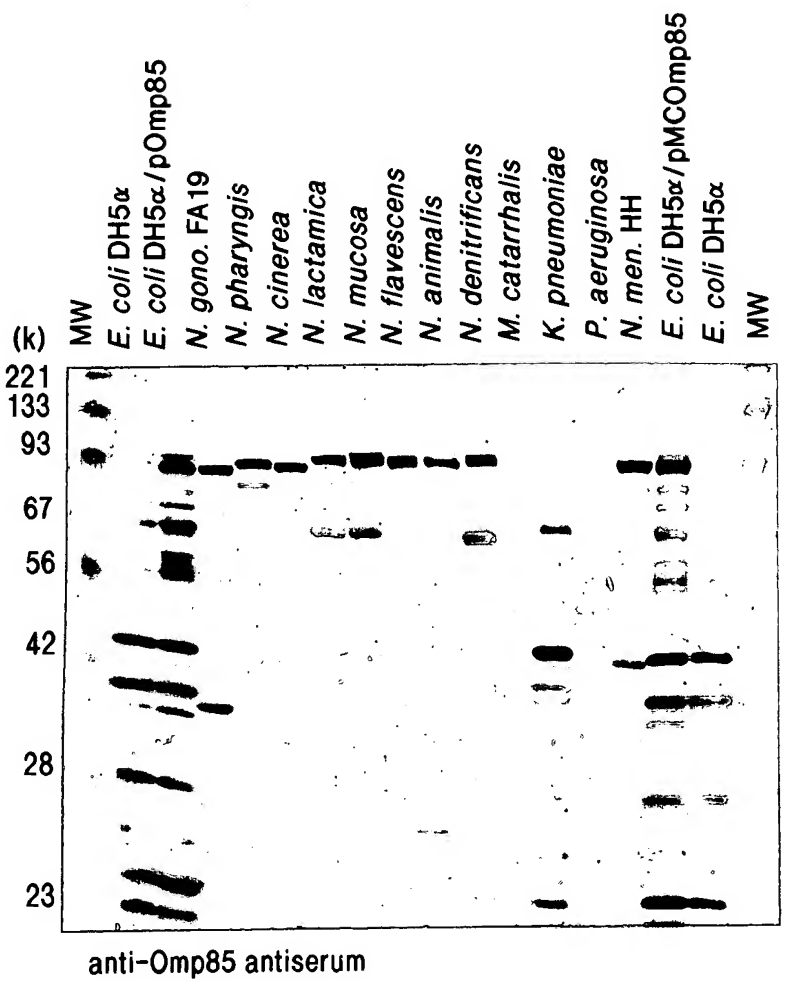
(k)
MW
E. coli DH5α
E. coli DH5α/pOmp85
N. gono. FA19
N. pharyngis
N. cinerea
N. lactamica
N. mucosa
N. flavescens
N. animalis
N. denitrificans
M. catarrhalis
K. pneumoniae
P. aeruginosa
N. men. HH
E. coli DH5α/pMCOmp85
E. coli DH5α
MW
221
133
93
67
56
42
28
23
anti-Omp85 antiserum

FIG. 7A

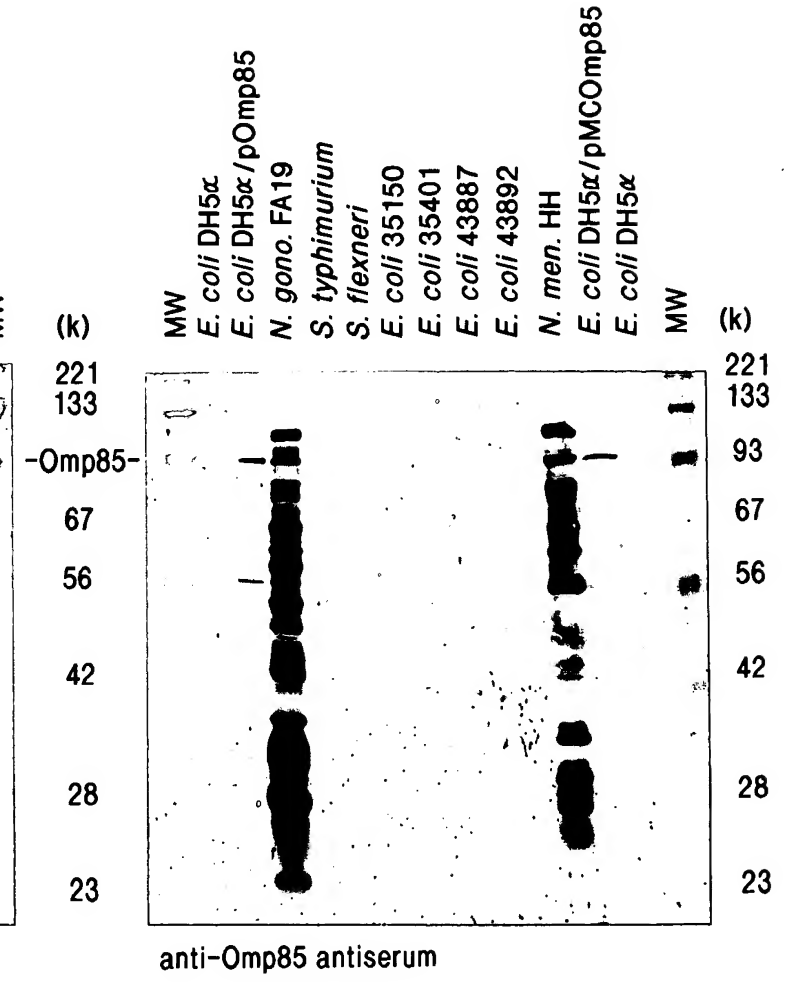
(k)
MW
E. coli DH5α
E. coli DH5α/pOmp85
N. gono. FA19
S. typhimurium
S. flexneri
E. coli 35150
E. coli 35401
E. coli 43887
E. coli 43892
N. men. HH
E. coli DH5α/pMCOmp85
E. coli DH5α
MW
221
133
-Omp85-
67
56
42
28
23
anti-Omp85 antiserum

FIG. 7B

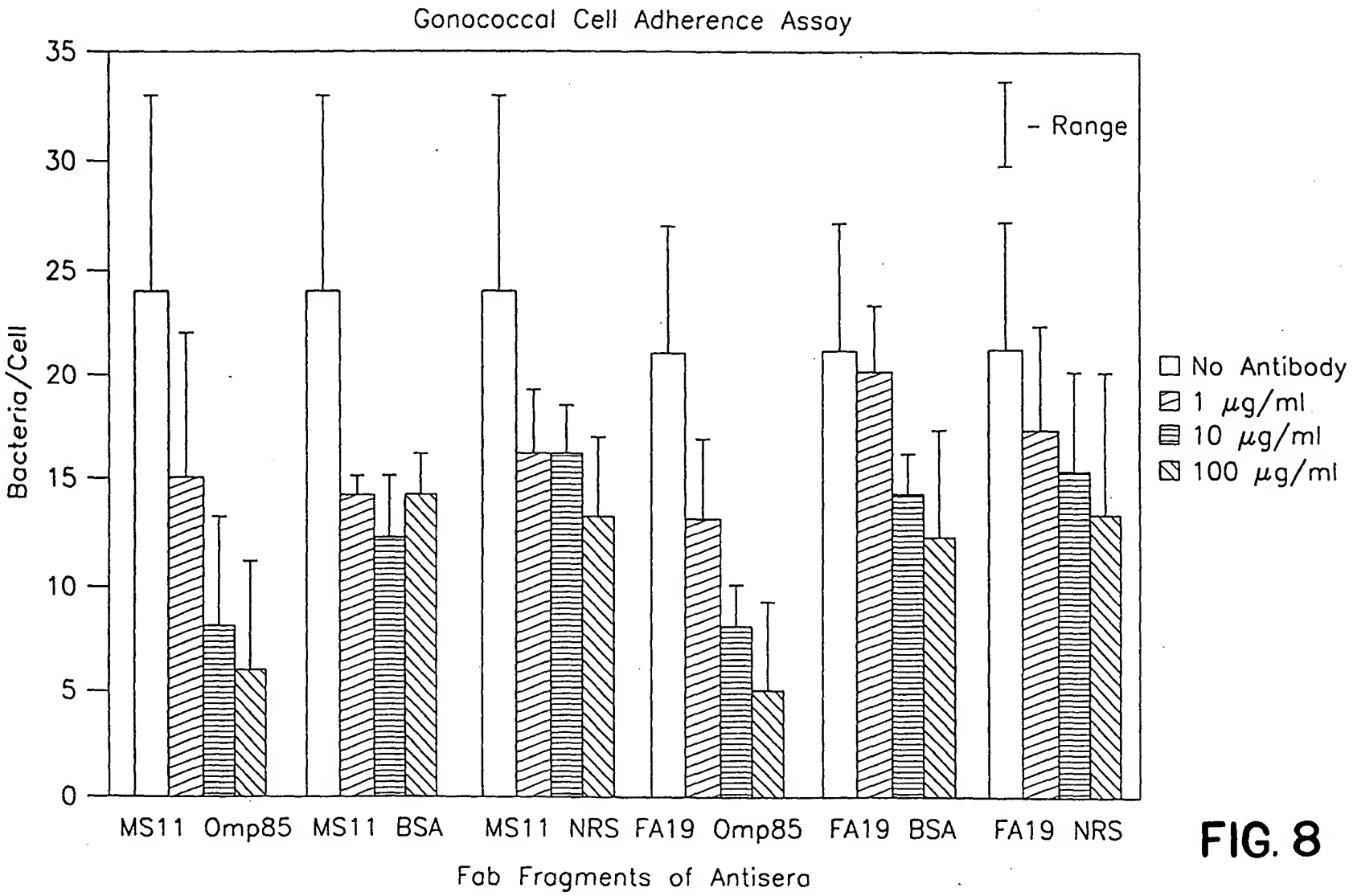
Gonococcal Cell Adherence Assay
Bacteria/Cell
35
30
25
20
15
10
5
0
- Range
No Antibody
1 μg/ml
10 μg/ml
100 μg/ml
MS11 Omp85
MS11 BSA
MS11 NRS
FA19 Omp85
FA19 BSA
FA19 NRS
Fab Fragments of Antisera

FIG. 8